

Listing of the Claims

1. (Currently Amended) A method of improving the reliability of peer-to-peer network downloads, comprising:

- a) initiating a broadcast search from a client on a peer-to-peer network;
- b) receiving a list of servers that satisfy the search;
- c) selecting at least one of the servers from the list of servers;
- ~~comparing a connection speed to the of at least one of the servers to an available bandwidth of the client;~~
- d) selecting one of a plurality of downloading systems based on a predetermined criteriathe comparison; and
- e) downloading a file using one of the plurality of downloading systems.

2. (Currently Amended) The method of claim 1, wherein ~~step (d) further includes the step of:~~

- d1) ~~selecting a multiple concurrent download systemthe one of the plurality of downloading systems is a multiple concurrent download system.~~

3. (Currently Amended) The method of claim 1, wherein ~~step (d) further includes the step of:~~

- d1) ~~selecting a multiple concatenated download systemthe one of the plurality of downloading systems is a multiple concatenated download system.~~

4. (Currently Amended) The method of claim 1, wherein ~~step (d) further includes the step of:~~

- d1) ~~selecting a serial concatenated download systemthe one of the plurality of downloading systems is a serial concatenated download system.~~

5. (Currently Amended) The method of claim 1, ~~wherein step (d) further includes the step of~~comprising:

- d1) determining [[a]]~~the~~ connection speed to of the at least one of the servers.

6. (Cancelled)

7. (Currently Amended) The method of claim 1, wherein step (a) initiating the broadcast search from the client on the peer-to-peer network further includes the step of comprises:

a1) entering a text string.

8. (Currently Amended) The method of claim 1, wherein step (a) initiating the broadcast search from the client on the peer-to-peer network further includes the step of comprises:

a1) entering a unique key.

Claims 9-10 (Cancelled).

11. (Currently Amended) The method of claim 1, wherein step (b) receiving the list of servers further includes the step of comprises:

b1) receiving a document name.

12. (Currently Amended) The method of claim 1, wherein step (b) receiving the list of servers further includes the step of comprises:

b1) receiving a file size.

13. (Original) The method of claim 1, wherein step (b) receiving the list of servers further includes the step of comprises:

b1) receiving a source node for a file.

14. (Currently Amended) The method of claim 1, wherein step (b) receiving the list of servers further includes the step of comprises:

b1) receiving an available bandwidth at a server at least one of the servers.

15. (Currently Amended) A method of improving the reliability of peer-to-peer network downloads, comprising the steps of:

- a) originating a search from a client on a peer-to-peer network;
- b) broadcasting a search query from a client over the peer-to-peer network;
- c) receiving a list of servers and a list of associated document names that satisfy the search query;
- d) selecting at least one of the servers from the list of servers;
- e) comparing a connection speed of at least one of the servers on the list of servers to an available bandwidth of the client;
- f) determining one of a plurality of downloading systems based on a predetermined criteria in the comparison; and
- g) downloading a file via the once of the plurality of downloading systems.

16. (Currently Amended) The method of claim 15, wherein ~~step (a)~~ further including the step of comprising:

- a1) entering a unique key that identifies the file.

17. (Currently Amended) The method of claim 15, wherein ~~step (e)~~ receiving the list of servers further includes the step of comprises:

- e1) receiving a file size, a source node and a unique key.

18. (Currently Amended) The method of claim 15, ~~wherein step (d)~~ further includes the step of comprising:

- d1) measuring [[a]] the connection speed to a plurality of servers the at least one of the servers on the list of servers[[;]]
- d2) comparing the connection speed of the plurality of servers to an available bandwidth to the client.

19. (Currently Amended) The method of claim 15, wherein ~~step (e)~~ determining one of the plurality of downloading systems further includes the steps of comprises:

- e1) determining if an available bandwidth of the client is less than a connection speed to two of the servers on the list;

e2) when the available bandwidth of the client is less than the connection speed to the two of the servers, selecting a serial concatenated download system.

20. (Currently Amended) The method of claim 19, further including the steps ofcomprising:

e3) when the available bandwidth is not less than the connection speed to the two of the servers, selecting a multiple concurrent download system.

21. (Currently Amended) The method of claim 19, further including the steps ofcomprising:

e3) when the available bandwidth is not less than the connection speed to the two of the servers, selecting a multiple concatenated download system.

22. (Currently Amended) The method of claim 19, wherein step (e2)selecting the serial concatenated download system further includes the steps ofcomprises:

i) starting a download from one of the list of servers first one of two servers; and
ii) if the download from the first one of the two servers is interrupted during the download, selecting a second of the list of servers second one of the two servers to start a download at a next byte after a last received byte.

23. (Currently Amended) The method of claim 20, wherein step (e3)selecting the multiple concurrent download system further includes the steps ofcomprises:

i) starting a download from at least two of the servers;
ii) if any of the at least two of the servers finishes the download, terminating the download forfrom any other serversserver.

24. (Currently Amended) The method of claim 21, wherein step (e3)selecting the multiple concatenated download system further includes the steps ofcomprises:

- ii) starting a first download at a first byte of the file ~~for one~~from a first one of the ~~at least~~ two servers;
- ii) starting a second download at a second byte of the file ~~for~~from a second one of the ~~at least~~ two servers;
- iii) determining when a complete file has been downloaded by combining the first download and the second download.

25. (Currently Amended) A method of operating a peer-to-peer network comprisingthe steps of:

- a) initiating a broadcast search from a first peer to the peer-to-peer network;
- b) receiving a list of peer servers that meet a search query;
- comparing a connection speed to at least one of the peer servers to an available bandwidth of the first peer;
- e) selecting one of a plurality of downloading systems based on ~~a predetermined criteria~~the comparison; and
- d) downloading a file using the ~~one of the plurality of~~selected one of the downloading systems.

26. (Currently Amended) The method of claim 25, wherein step (e)selecting one of the plurality of downloading systems further includes the steps ofcomprises:

- e1) determining [[a]]the connection speed to each of the peer servers on the list of peer servers;
- e2) selecting a subset of the list of peer servers based on the determined connection speedsspeeds.

27. (Currently Amended) The method of claim 26, wherein step (e1)determining the connection speed to each of the peer servers on the list of peer servers further includes the step ofcomprises:

- i) requesting and receiving a test file from each of the servers on the list of servers.

28. (Currently Amended) The method of claim 26, wherein ~~step (e1)determining the connection speed to each of the peer servers on the list of peer servers further includes the step of~~comprises:

~~d1) determining an order of response receipt from each of the servers on the list of servers.~~

29. (Currently Amended) The method of claim 26, wherein ~~step (e1)determining the connection speed to each of the peer servers on the list of peer servers further includes the step of~~comprises:

~~d1) pinging each of the servers on the list of servers.~~

30. (Currently Amended) The method of claim 25, wherein ~~the step (d)downloading the file using the one of the plurality of downloading systems further includes the steps of~~comprises:

~~d1) when at the available bandwidth is less than [[a]] two times at the connection speed to at least one of the peer servers, selecting a server with a fastest connection speed; and~~

~~d2) starting a download from the server with the fastest connection speed.~~

31. (Currently Amended) The method of claim 29~~30~~, further including the steps ofcomprising:

~~d3) determining if the server with the fastest connection speed had an error before the file was downloaded~~download was completed~~;~~

~~d4) when the server with the fastest connection speed had an error before the file was downloaded~~download was completed~~, selecting a second server;~~

~~d5) determining a last byte received;~~

~~d6) transmitting a download starting from a next byte command to a second server.~~

32. (Currently Amended) The method of claim 25, wherein ~~the step (d)downloading the file using the selected one of the downloading systems further includes the steps of~~comprises:

~~d1) when an available bandwidth is not less than [[a]] two times at the connection speed to at least one of the peer servers, selecting a plurality of servers from the list of servers;~~

d2) starting a plurality of simultaneous downloads from the plurality of servers.

33. (Currently Amended) The method of claim 32, further ~~including the steps~~
~~of comprising:~~

d3) determining if the client has received a complete version of the file from one of the plurality of servers;

d4) when the client has received a complete version of the file from one of the plurality of servers, terminating ~~a rest of the remaining~~ downloads.

34. (Currently Amended) The method of claim 25, wherein ~~the step~~
~~(d) downloading the file using the one of the plurality of downloading systems~~ further
~~includes the steps of comprises:~~

d1) when an available bandwidth is not less than [[a]] two times ~~at the connection speed to at least one of the peer servers~~, selecting a plurality of servers from the list of servers;

d2) starting a plurality of simultaneous offset downloads from the plurality of servers.

35. (Currently Amended) The method of claim 34, further ~~including the step~~
~~of comprising:~~

d3) when a complete file can be formed from the plurality of simultaneous offset downloads, constructing a complete file.

36. (Currently Amended) A method of operating a peer-to-peer network comprising the steps of:

- ⓐ initiating a search from a first peer to the peer-to-peer network;
- ⓑ receiving a list of peer servers, a plurality of associated file names, a plurality of file sizes, a plurality of bandwidths and a plurality of source nodes that meet a search query;
- ⓒ determining a connection speed to each of the peer servers on the list of peer servers;
- ⓓ selecting a subset of the list of peer servers based on the connection speed;
- ⓔ when an available bandwidth is less than [[a]] two times a connection speed[[.]]:
 - _____ selecting a server with a fastest connection speed;
 - ⓕ _____ starting a download from the server with the fastest connection speed;
 - ⓖ _____ determining if the server with the fastest connection speed had an error before the file was downloaded;
 - ⓗ when the server with the fastest connection speed had an error before the file was downloaded[[.]]:
 - _____ selecting a second server;
 - ⓘ _____ determining a last byte received;
 - ⓙ _____ transmitting a download starting from a next byte command to a second server;
 - ⓚ when an available bandwidth is not less than [[a]] two times a connection speed[[.]]:
 - _____ selecting a plurality of servers from the list of servers;
 - ⓛ _____ starting a plurality of simultaneous downloads from the plurality of servers;
 - ⓜ _____ determining if the client has received a complete version of the file from one of the plurality of servers; and
 - ⓝ _____ when the client has received a complete version of the file from one of the plurality of servers, terminating a rest of the downloads.

37. (New) A method comprising:
broadcasting a search request to a network;
receiving first information associated with a first peer capable of satisfying the search request;
receiving second information associated with a second peer capable of satisfying the search request;
determining a first metric associated with a connection to the first peer;
determining a second metric associated with a connection to the network;
comparing the first metric to the second metric; and
selecting a download system based on the comparison.

38. (New) A method as defined in claim 37, further comprising satisfying the request using at least one of the first peer or the second peer and using the selected download system.

39. (New) A method as defined in claim 37, wherein satisfying the request using at least one of the first peer or the second peer comprises downloading a file from at least one of the first peer or the second peer using the download system.

40. (New) A method as defined in claim 37, wherein the selected download system is one of a serial concatenated download system, a multiple concurrent download system, or a multiple concatenated download system.

41. (New) A method as defined in claim 37, wherein at least one of the first metric or the second metric is a data transfer rate.

42. (New) A method as defined in claim 37, wherein selecting the download system based on the comparison comprises, when the second metric is greater than the first metric, selecting a multiple download system.

43. (New) A method as defined in claim 42, wherein the multiple download system is at least one of a multiple concurrent download system or a multiple concatenated download system.

44. (New) A method as defined in claim 37, wherein the first information is the network address of the first peer.